was as likely autochthonous as of Asiatic origin, had stamped its impress on the people of California. The early men of America he believed were dolichocephali, and the short-headed people he thought were made up of a succession of intrusive tribes in a higher stage of development, which in time overran the greater part of both North and South America, conquering and absorbing the long-headed people, or driving them to the least desirable parts of the continent. He thought that the evidence was conclusive that California had been the meeting ground of several distinct branches of the widely-spread Mongoloid stock; for in no other way could he account for the remarkable commingling of customs, arts and languages, and the formation of the large number of tribes that existed in both Upper and Lower California when first known to the Spaniards. Mr. Putnam then gave a review of the arts of the Californians and the physical characters and customs of the people, showing that, notwithstanding the absence of pottery, the tribes, when first known, had passed through the several stages of savagery and had reached the lower status of barbarism of the "ethnical periods" given by Morgan.

PROF. SCHAFER'S course of eleven lectures on the Blood at the Royal Institution will begin on the 25th instant instead of the 18th. Mr. Francis Hueffer's course of four lectures on the Troubadours will begin on the 27th instant instead of the 20th; and Prof. Sidney Colvin's course of four lectures on the Amazons will begin on the 29th instant instead of the 22nd.

PART 2 of vol. vii. of the "Natural History Transactions of Northumberland, Durham, and Newcastle-on-Tyne" has just been issued (Williams and Norgate). The part contains an interesting memoir of the late Mr. W. C. Hewitson, F.L.S., by Dr. Embleton, accompanied by a good photograph. There is a long paper by Mr. Hugh Miller on Tynedale Escarpments, their pre-glacial, glacial, and post-glacial features.

HERR E, REYER has published a little pamphlet containing some interesting notes on the history of tin.

AT the meeting of the Eastbourne Natural History Society of December 17, 1886, Mr. Charles Foran read "Notes on some of the Beetles of the Cuckmere District."

THE Municipal Council of Paris has given authority to the Lontin Company to light the Place du Carrousel with electricity. A contract has been signed by the Lyons and Mediterranean Company for illuminating, by the Lontin light, all the principal railway stations on their system. Experiments have been tried at Marseilles and have been carried out successfully.

FROM January 1 *L'Electricité* and *La Lumière Electrique*, two French electrical papers, will appear every week instead of every fortnight.

THE German Society of Eastern Asia, having its headquarters at Yokohama, has sent us the last four parts of its *Mittheilungen*. This Society is evidently doing a very useful work in collecting information on a great variety of subjects connected especially with Japan. The parts sent us contain papers on such subjects as Japanese proverbs, diseases, songs, population statistics, mining, cremation, the "Go" game, coins, and the chalk formation of Yedo. Asher and Co. of Berlin are the European agents of the Society.

WE find in the *Journal de Genève* the following figures as to the very warm winter which is experienced during this year on the shores of Lake Leman, as compared with the unusually cold winter of the year passed. In December, 1879, the maximum daily temperature at Geneva was only five times above zero, and the average was +6°·4 Cels., whilst the average of the maximum temperatures of the remaining twenty-six days was −4°·5 Cels. As to the minima they were only twice above zero, and their average was +2°·9, whilst the average of the remaining twenty-nine minima was −9°·7. In December, 1880, the thermometer was only six times below the melting-point, and the average of the cold minima was −0°·7, whilst the average of the minima for the other twenty-five days was +3°·8. As to the maxima they fell below zero, and their average is as high as +9°·1. The greatest cold experienced during December, 1879, was −15° Cels., and only −1°·5 in 1880; the warmest temperature observed during December, 1879, was +8°·9, and +13° Cels. in 1880.

A TEA plantation was established last year by Count d'Amigo upon his estates, situated near Messina. The tea plant is said to thrive perfectly well there, and its leaves are said to be in no-wise inferior to those of the Chinese plant. In order to dry them in a rational manner and to prepare them for export as well as for home consumption, a Chinese expert is to become the manager of the Messina plantations.

THE Wissenschaftliche Centralverein at Berlin held its annual general meeting on December 13, 1880. The secretary, Dr Max Hirsch, in his yearly report stated that the principal efforts of the Society had been directed towards furthering the progress of the Humboldt Academy, which was founded by the Society some two years ago, and which since that time shows a total of ninety-two courses of lectures, which were delivered before 3366 students and a still larger number of "hospitanten," *i.e.* casual students. Apart from these lecture-courses the Society has for this winter arranged for a number of single lectures by eminent men of science. The establishment of a large reading-room is also planned.

A YOUNG Men's Society for Home Study has been started in the United States. The aim of the Society is to guide and encourage young men desirous of systematic study and reading at home by opening to them, by means of correspondence, systematic courses in various subjects. Courses of reading and plans of work are arranged, from which men may select one or more, according to their taste and leisure, and aid is given them, from time to time, through directions and advice. The courses offered by the Society at present (more may be added as the demand for them becomes known) are: Course 1. American and English History. Course 2. English Literature. Course 3. German Literature. Course 4. Natural Science: Sec. 1, Botany; Sec. 2, Zoology; Sec. 3, Geology. Course 5. Mathematics. Mr. Samuel H. Scudder is head of the Natural Science Department.

THE simplest post-office in the world is in Magellan Straits, and has been established there for some years past. It consists of a small cask, which is chained to the rock of the extreme cape in the straits, opposite Tierra del Fuego. Each passing ship sends a boat to open the cask and to take letters out and place others into it. The post-office is self-acting therefore; it is under the protection of the navies of all nations, and up to the present there is not one case to report in which any abuse of the privileges it affords has taken place.

OUR ASTRONOMICAL COLUMN

WINNECKE'S COMET.—Reference has been already made in this column to the very unfavourable circumstances attending the actual return to perihelion of the short-period comet of Winnecke, and so far there is no intimation of its having been detected even with telescopes of the greatest optical capacity. Indeed, as will be seen from Prof. Oppölzer's communication in the *Astron. Nach.* No. 2326, though he gave an accurately-computed ephemeris extending to January 24, he considered the chance of perceiving the comet a very remote one. The perihelion passage took place on December 4, and the intensity of light is now very small, not greater than half that at the date of the last observation in 1858. The comet sets less than 1h. 45m.

after the sun. The later positions in Prof. Oppölzer's ephemeris are as follows:—

	12h. Berlin M.T. R.A.	N.P.D.	Log. distance from Earth.
	h. m. s.	° ′	
January 16 ...	21 29 12 ...	109 41·4 ...	0·2836
18 ...	21 38 18 ...	109 9·7 ...	0·2875
20 ...	21 47 12 ...	108 36·9 ...	0·2916
22 ...	21 55 54 ...	108 3·2 ...	0·2959
24 ...	22 4 23 ...	107 28·6 ...	0·3002

SWIFT'S COMET.—Mr. Common, with his reflector of three feet aperture at Ealing, has observed this comet for position as late as January 5, when it was not yet considered the *extremum visible* in the instrument. Accurate observations were made by Mr. Lewis Boss at the Dudley Observatory, Albany, U.S., on October 11, the night after discovery, so that there will be a good extent of observation upon which to determine the orbit at this appearance.

MINIMA OF ALGOL.—The following epochs of geocentric minima of Algol are deduced from Prof. Schönfeld's elements. That very sensible perturbations have taken place during the last few years is shown by a comparison of these elements with the observations of Prof. Julius Schmidt of Athens; thus the mean errors since 1875 are, for 1875·76 − 4·8m.; 1876·76 + 19·4m.; 1877·73 + 40·8m.; 1878·78 + 21·3m. The star is well deserving of attention during the present year.

	G.M.T. h. m.		G.M.T. h. m.
January 21	18 20	February 13	16 54
24	15 9	16	13 43
27	11 58	19	10 32
30	8 48	22	7 22
February 2	5 37		

CERASKI'S VARIABLE IN CEPHEUS.—A series of minima of this star visible in Europe commences about January 13, continuing until May. The period may be taken = 2·492913d. or 2d. 11h. 49·795m., and if we reckon from the second minimum completely observed by Prof. Schmidt on October 18, 1880, we shall find a minimum on January 18 at 17h. 41m. G. M. T., and successive visible epochs may be inferred by adding 4d. 23h. 39·59m.

ELONGATIONS OF MIMAS.—According to the elements previou ly adopted in this column for indicating approximately the times of greatest elongations of this very difficult object, the satellite would be at the western extremity of its apparent orbit at the following Greenwich times:—

	h. m.		h. m.
January 19 ...	11 5	January 22 ...	6 56
20 ...	9 42	23 ...	5 33
21 ...	8 19		

The elements upon which Prof. Newcomb's manuscript tables adopted in the *American Ephemeris* for 1882 and 1883 are founded appear to give the times of the elongations later by some forty minutes.

THE ACADEMY OF SCIENCES, PARIS.—The recent election of Dr. Warren De La Rue as Correspondent of the Academy of Sciences of the Institute of France, Section of Astronomy, in place of the late Sir Thomas Maclear, nearly completes the usual number of correspondents in this section, upon which several vacancies had existed for some time. The roll is now as follows, taking the names in alphabetical order:—Adams (Cambridge), Cayley (Cambridge), De La Rue (London), Gyldén (Stockholm), Hall (Washington), Hind (London), Huggins (London), Lockyer (London), Newcomb (Washington), Oppölzer (Vienna), Plantamour (Geneva), Roche (Montpellier), Schiaparelli (Milan), Stephan (Marseilles), and Struve (Pulkova). The Astronomer- Royal is one of the eight Foreign Associates of the Academy.

GEOGRAPHICAL NOTES

WE are glad to learn that the rumour of the murder of Herr Hildebrandt in Madagascar is unfounded.

THE first number of the memoirs (*Zapiski*) of the West Siberian Branch of the Russian Geographical Society contains valuable papers by M. Kostroff on witches in the Government Tomsk; by M. Grigorovsky, on the peasantry in the Narym district; by M. Pyevtzoff, on his journey through Djoungaria, with a map; and by M. Balkashin, on trade *viâ* the Ob River with Europe during the years 1877 and 1878.

AT one of its recent meetings the Russian Geographical Society discussed the proposal of Mr. Fleming, transmitted to the Society by the Governor-General of Canada, as to the adoption of a universal time and of a universal first meridian. As to the suggestion to have a cosmopolitan noon at the same moment over the surface of our globe, the Society thinks that it would meet with a mass of difficulties as to its application in daily life; but the advantages which a universal time would afford being very great, the Society expresses the wish that the whole question be earnestly discussed and studied by learned societies. As to the first meridian, the Society, which already discussed the question in 1870, maintains its former resolution, namely, that the meridian of Greenwich, or at least that of Behring Strait, 180° distant from that of Greenwich, should be accepted by the whole civilised world as a first meridian.

WE have received the annual reports for 1879 of the Siberian, Orenburg, and Caucasian branches of the Russian Geographical Society, which has had the happy idea to publish all the reports together in one volume, thus rendering accessible for the general reader who knows Russian this most valuable geographical information, formerly disseminated in local publications. The oldest of these branches, the East Siberian, has endured heavy losses during the great fire at Irkoutsk. Its rich zoological, botanical, geological, and ethnographical collections were all destroyed by fire: the beautiful head of a *Rhinoceros tichorhinus*, just received from Verkhoyansk, the rare collection of samples of gold from all the gold-mines of Eastern Siberia, palæontological collections not yet described, and so on, as well as the 10,230 volumes of its rich library, and collections of old records, were all destroyed by fire. Several scientific bodies, Russian and foreign, have already sent their publications and duplicates from their libraries, so that the museum and library already are in way of reconstitution.

THE third volume of the "Rajputana Gazetteer" has just been issued from the Government press at Simla. The various sections into which it is divided are contributed by Capt. C. E. Yate, Major C. A. Baylay, and Major P. W. Powlett, and treat of general topography, history, population, trade, towns, &c. Mr. J. F. Baness, the chief draughtsman in the geographical and drawing branch of the Survey of India, has in the press at Calcutta a work entitled "Index Geographicus Indicus." It will be published in one volume. with eight coloured maps, and will comprise a list, alphabetically arranged, of the principal places in our Indian Empire, accompanied by much statistical, political, and descriptive information.

A SERIES of papers is commenced in last week's issue of *Les Missions Catholiques*, on the manners, customs, and religion of the races of the Caucasus.

The new number of the *Bulletin* of the Commercial Geographical Society of Bordeaux contains a useful paper on Japan, by M. E. Labrone.

THE Palestine Exploration Society have decided to undertake the exploration of Palestine east of the Jordan.

OBSERVATIONS ON ANTS, BEES, AND WASPS[1]

Power of Communication by something approaching to Language.

IN my previous papers many experiments have been recorded, in which I have endeavoured to throw some light on the power of communication possessed by ants. It is unquestionable that if an ant or a bee discovers a store of food her comrades soon flock to the treasures, although, as I have shown, this is by no means always the case. But it may be argued that this fact taken alone does not prove any power of communication at all. An ant observing a friend bringing food home might infer, without being told, that by accompanying the friend on the return journey she might also participate in the good things. I have endeavoured to meet this argument in my third paper (*Linn. Journ.* vol. xii. p. 466) by showing that there was a marked

[1] By Sir John Lubbock, Bart., M.P., F.R.S., F.L.S., D.C.L., LL.D., Vice-Chancellor of the University of London. Read at the Linnean Society, June 17. Abstract.